

Exploration of factors affecting changes in student learning behavior: A systematic literature review

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ABSTRACT

The general learning behavior has a major impact on the psychological and mental adjustment of students to learn. Therefore, this study reviews relevant studies on the factors causing changes in student learning behavior. The review used PRISMA, so several stages were carried out to filter and collect relevant information. The results of the synthesis revealed 19 broad factors influencing student learning behavior. Furthermore, these factors can be seen in more detail in four main groupings: i) Student learning behavior in the classroom; ii) Student learning behavior outside the classroom; iii) Student learning motivation; and iv) Student learning behavior results. Student learning behavior in the classroom is influenced by motivation, reflection, learning satisfaction, and learning activities. Meanwhile, student learning behavior outside the classroom is influenced by technology, independent learning abilities, learning resources, learning environment, and students' internal conditions. The final result showed that students with a positive learning environment consistently acquire good knowledge in achieving learning objectives. There are many challenges in forming good student learning behavior. Therefore, this study benefits the education experts, counselors, teachers, parents, and the learning environment by increasing student motivation and satisfaction in learning to minimize the negative impact of changes in student learning behavior.

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1. INTRODUCTION

Learning behavior, in social learning theory, is the result of an individual's ability to interpret knowledge or information, interpret an imitated model, and process it cognitively to determine actions in accordance with the desired goals [1]. Goal orientation and self-efficacy are important variables that influence learning behavior [2]. The achievement of goals positively affects the learning behavior of junior high school students [3]. Therefore, it is unsurprising that learning behavior is often associated with a willingness to understand and engage in learning [2]. This willingness is shown through the responses regarding learning situations and acting on academic assignments [4]. Learning behavior is a learning activity carried out repeatedly with good and bad qualitative assessments depending on the responses obtained from

learning activities [5]. If students get a consistently positive learning environment, they will gain good knowledge to achieve the learning objectives.

Socio-emotional learning in children can be adjusted and managed through preschool programs [6]. Thus, maladaptive motivation and learning behavior can be influenced by learning support from parents and teachers, cultural capital in the family, and teacher commitment to support student learning [7]. Low parental education has affected the behavior of less-independent students [8]. The role of parents in the family is more important than any other balance in society [9]. Typologically, there are three types of parents: inspired, pragmatic, and concerned. Inspired parents describe their children as intelligent and high-performing individuals who are generally optimistic about the future of students' education. Pragmatic parents describe their children as having average academic abilities but with learning or behavioral challenges, while concerned parents have significant concerns about their child's self-esteem and emotional/behavioral challenges, which outweigh their worries about the child's academics [10]. Meanwhile, another study found that authoritarian parents positively correlated with students' academic achievement [11].

In addition, mentoring from the teacher can mediate learning behavior and positive emotions among students in the school environment [12]. The teacher's role can also support the success of the parent-school partnership. The teacher's role in communicating creates active participation in school [13]. The school environment is one aspect affecting learning behavior [14]–[17]. Learning strategy is one of the distinguishing elements of students in learning [18]. The quality of the learning strategies provided influences students' expectations about the future, which in turn can encourage students to achieve higher academic goals [19]. Academic success has strong implications for students' education and learning strategies. So, there is a significant relationship between student achievement, learning styles, and learning behavior [20].

Assessment of learning behavior is a formidable challenge for teachers. Assessment of learning behavior must be seen from various factors influencing learning behavior. Several studies have attempted to classify factors affecting changes in student learning behavior, including psychological factors, school environment, community environment, student environment, religious environment, security environment, knowledge, previous memory, and family environment [15], [21]–[23]. Learning behavior is also influenced by teacher involvement, parental investment, school quality, and student motivation [24], [25]. Politzer and McGroarty [26] divided learning behavior and strategies into three categories: in-class learning, individual learning, and social interaction outside the classroom. Learning behaviors in the classroom, such as instructional situations, engagement and classroom behavior norms [27]. Furthermore, Rahman, Mason, and Yusof [23] also described that student learning behavior could be identified in three main components related to teaching and learning situations: entry mastery, opportunity to learn, and student motivation.

To date, several case studies aiming to discover factors of learning behavior have been written and published. These empirical studies range from discussing the relationship between learning behavior and age, experience, and type of academic achievement [20] to those that highlight social, learning, and cultural differences [28]. Empirical studies have also proposed factors influencing learning behavior in terms of the influence of teaching and learning situations in the form of entry mastery, learning opportunities, and learning motivation [23]. Another study revealed a significant relationship between personality aspects and learning motivation [29]. This comprehensive review, explaining how certain factors influence changes in student learning behavior, has laid the foundation and provided the impetus for this review, explicitly focusing on understanding the factors causing changes in the learning behavior of junior high school students.

To date, the available information has not produced complete insight into the main factors causing changes in student learning behavior. Indicators or factors influencing changes in learning behavior are the core considerations in assessing changes in student learning behavior. The suitability between learning behavior factors and learning behavior outcomes is paramount to ensure that students will realize learning achievements and positive attitudes in the community. The purpose of this study was to systematically review the literature concerning factors influencing the learning behavior of junior high school students. In addition, this research is part of a study on the model factors of student learning behavior. The factors identified by this research will be adjusted to the characteristics of the research area. Therefore, the researchers proposed the following research questions: What are the factors that influence changes in the learning behavior of junior high school students?

This review can find the main factors that influence the learning behavior of junior high school students, especially students who are in puberty, where positive learning behavior can only be realized when the family and school environment as well as students' social interactions outside of school through the program, are planned and structured. Governments through institutions need to increase their efforts to meet the basic needs of students in learning, improve the quality of education, build proper educational infrastructure, and design regulatory frameworks related to the use of technology to reduce the technological risks involved in maintaining student learning behavior, and ensure that the use of learning media and digital technology can be applied well among adolescent students. Good learning behavior is formed from the

contribution of parents, teachers and schools through the education system and a conducive student learning environment. Hence, it is necessary to create learning strategies appropriate for students' age, educational background, and culture.

2. RESEARCH METHOD

2.1. Research design (PRISMA)

This study used a systematic literature review (SLR) approach with the stages of collecting, determining, analyzing and synthesizing several articles about the factors influencing the learning behavior of junior high school students. To avoid systematic errors or bias in applying the SLR method, the researchers also applied a scientific procedure. This systematic review was conducted from June 2021 to June 2022 using PRISMA reporting guidelines. According to these guidelines, a systematic review consists of several steps in this research: i) Protocol and registration; ii) Eligibility criteria; iii) Information sources; iv) Search; v) Study selection; vi) Data collection process; vii) Data items selection [30]. Figure 1 illustrates the steps of working on a systematic review.

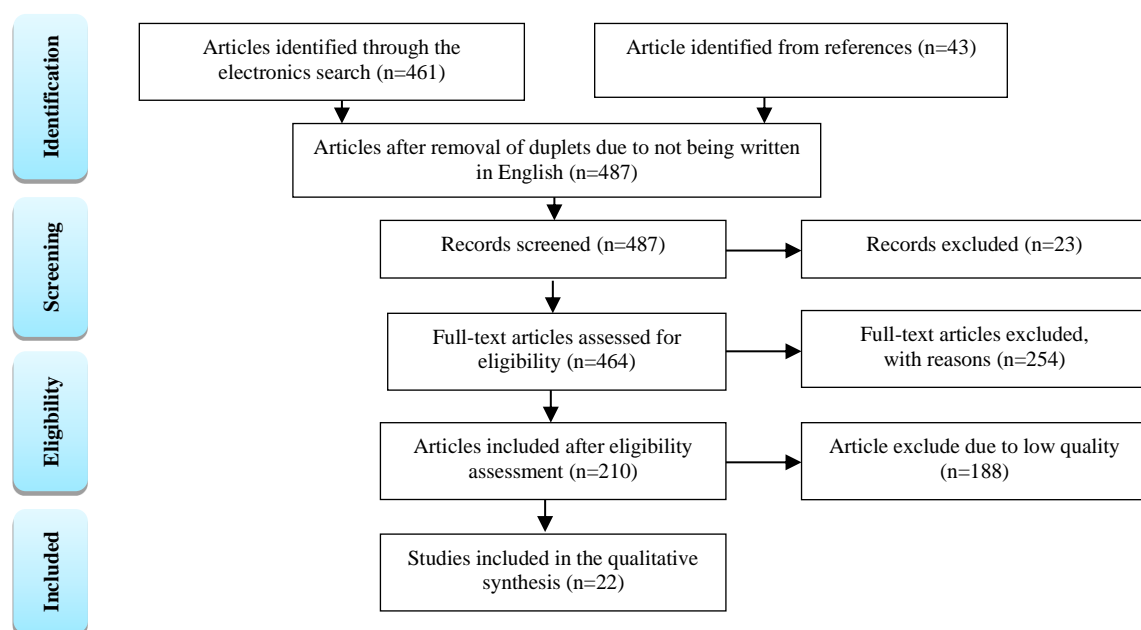


Figure 1. Flow diagram of the include articles according to PRISMA [30]

2.2. Eligibility criteria

The literature search was structured using population, invention, comparison, outcomes and study design (PICOS) components, as outlined in Table 1. This review covers the factors that influence student learning behavior, namely comparing two or more interventions by examining learning behavior in the classroom and outside the classroom, as well as study habits [31], [32] by using research in the form of study results not from the literature review of previous researchers. Only original articles written in English and not from conference abstracts are included in this literature. In addition, this study does not include studies that look at learning behavior factors in high-level learning students such as high school students and college students.

This review includes all factors influencing the learning behavior of junior high school students and compares the relationship or more factors with student learning behavior, using adolescent students as the sample size. Only original English and open access articles published between January 2005 and May 2021 were included. Articles were excluded if they were review articles through framework analysis without reported details regarding the factors influencing changes in student learning behavior and not focusing on junior high school students.

Table 1. The literature search was structured using PICOS components

PICOS-component	Inclusion criteria	Exclusion criteria
Population	All population groups of junior high school students and behaviors that are at high risk of experiencing learning problems	Students whose age is beyond the age limit of teenagers in general, as indicated by the description of study participants/target groups in each article.
Intervention	The observed learning behavior is the learning behavior carried out at school, at home and in the community. In the following fields: education, deviant behavior, study habits, learning styles, or anything related to student learning behavior	Selective interventions, treatments
Comparator	Any active or passive comparator	No comparator at all
Outcome	Factors affecting student learning behavior.	If the research only has quantitative results
Study design	Include studies that address the concepts and factors of learning behavior in the broader context of learning behavior in the culture of the research area.	Empirical studies examine the impact of instruments or learning behavior factors on specific environmental outcomes without placing the discussion in the broader context of the implementation and development of learning behavioral factors in a particular field.

2.3. Search strategy

This literature review was carried out through several electronic databases available at the Syiah Kuala University library in Banda Aceh, Indonesia. The search was conducted using several terms, such as learning behavior or factors influencing learning behavior, and the synonyms of factors, such as parameters, instruments, and indicators. Because the characteristics of learning behavior are open, other terms are also used in the search, such as learning styles and learning strategies. The main search was carried out using Harzing's Publish or Perish (PoP) application windows GUI Edition 8.4.4041.8250 using relevant keywords and filters. Learning behavior after being studied from the literature is included in affective characteristics. Thus, learning behavior can be measured using learning styles [33].

Learning styles are differences in personal characteristics and strengths of preferences, describing how individuals acquire, process, and store information [34]. Therefore, the search used includes the term "learning behavior" OR "learning style" OR "learning strategy" and factor OR instrument OR indicator OR parameter and "junior high education" OR youth OR "junior high school." The last search was conducted on March 16, 2022. Articles were submitted with the following criteria: i) Peer-reviewed journal articles; ii) Written in English or a translation; iii) Open-access; iv) Available in full text; and v) Published between 2005 and 2021. The search yielded 504 articles in full text from 10 electronic databases as shown in Table 2. Therefore, the search strategy is relatively broad and unlikely that search engines can miss relevant articles.

Table 2. Number of articles found in a search from 10 electronic databases

No	Database name	Number of articles found in the database
1	Science Direct	156
2	ProQuest Journal	36
3	ERIC Journal	32
4	Springer Link	13
5	Taylor and Francis Online	99
6	SAGE Journals	83
7	Wiley Online Library	2
8	Journal STORage	39
9	Scholarly and academic information navigator (CiNii)	31
10	PubMed	13
	Total	504

2.4. Study selection

The search results of the electronic database found 504 articles available in full text for further manual selection. The review was carried out using the exclusion criteria as shown in Table 3. The steps in the selection were identification, screening, feasibility, and further analysis, undertaken by examining the title, abstract and full text. Finally, 17 articles were deleted because they were not in English, and 23 were removed because the research did not focus on junior secondary education. So, the remaining 464 articles were further selected. Further selection was carried out by reading the title and abstract of the main search before transferring them into reference software (Mendeley Desktop) for reference assessment. Two independent reviewers screened abstracts based on selection criteria. In the event of disagreement, the full text was discussed between reviewers and a third person to reach an agreement. The agreement is measured by the Kappa Cohen coefficient, ranging between 0.59 and 1.00 (good–very good agreement) [35].

Furthermore, 254 articles were discarded after further analysis because the data provided was irrelevant to student learning behavior. After reading 210 articles further, 188 articles were excluded because the discussion was not related to the factors that influence changes in student learning behavior. In the end, after manual selection, 21 articles meet the requirements for a literature review.

Table 3. Number of articles issued following the exclusion criteria

No	Exclusion criteria	Excluded based on the information obtained from the title/abstract
1	Review articles through framework analysis	254
2	Written not in English	17
3	There are no reported details regarding the factors that influence changes in student learning behavior	145
4	Focus not on junior high school students	23
	Total	439

2.5. Data collection, data extraction, and data analysis

All data articles found through the initial search process using the PoP search string were then transferred to the reference manager software (Mendeley Desktop). First, duplicates were removed. Furthermore, using exclusion and inclusion criteria, the library was filtered to obtain relevant articles based on the title and information in the abstract. The initial screening process was followed by a full-text search of all articles meeting the inclusion and exclusion criteria for download and further review of the contents to ascertain the extent to which the articles are in accordance with the scope of the objectives of this study.

The data extraction framework included details, such as research title, authors, methods, objectives, the definition of learning behavior, factors influencing learning behavior, and barriers to student behavior change, to extract relevant information from each of the studies in this review. Data were extracted and analyzed using a thematic synthesis approach [36]. Thematic analysis can generate meaning from various sources and reveal conceptual nuances in the material [37]. This approach helps find patterns and relationships in the data, identifying major themes and subthemes. The such thematic analysis makes it possible to identify relevant examples that properly illustrate each theme and sub-theme. The authors discussed developing search strategies and designing research protocols throughout the research process. Thus, a consensus on the relevance of the study can be reached, including the review, scope of the review and data extraction and analysis.

3. RESULTS AND DISCUSSION

3.1. Study context and characteristics

The search process used several categories of keywords resulting in 504 relevant articles relevant. Guided by the inclusion and exclusion criteria, 21 articles were identified as relevant to the research objectives. These articles describe the factors influencing student learning behavior from a total of 17 cities in several countries, such as Taiwan, Hawaii, the Philippines, the Pacific, the United States, Nepal, Michigan, the city of Kerman, Greece, Korea, West Lombok, Africa, Italy, China, Thailand, and Canada. A summary of the geographical location and design is shown in Table 4. Learning behavior is influenced by the learning process, study habits and social interaction of students outside the classroom. Thus, students can be seen that there are differences in student learning behavior between one country and another. The characteristics of the 21 included studies are broadly divided into three categories: i) Studies that focus on learning behavior in class; ii) Learning behavior outside the classroom; and iii) Focus on motivation in learning. More detailed information about 21 studies, research methods, research objectives, and other information are described in Table 5. Characteristics contexts of the 21 studies included in the review.

Table 4. A summary of the characteristic's contexts

Finding	Studies
Geographical location (country/continent) of the included studies	Rumania [20]
	Malaysia [23]
	Nepal [38]
	Taiwan [39]
	Italia [40]
	China [41], [42]
	Thailand [43]
	Canada [44]
	Switzerland and Luxembourg [45]

Table 5. Factors related to student learning behavior

No	Study	Method	Factor related to learning behavior
1	[12]	A multi-group structural equation model	Positive emotions
2	[20]	Survey	Age, experience, and academic performance type
3	[23]	Action research	Prior knowledge, motivation, opportunities to learn and obstacles to students changing
4	[38]	Survey	Task approach, negative emotions; task/thinking involvement; and self-control
5	[39]	Survey	E-learning system quality (eLSQ) and technology readiness (TR)
6	[40]	Survey	Problem-solving appraisal (problem-solving inventory)
7	[41]	Survey	Subjective norms and attitudes
8	[42]	Survey	Learning needs, interest in learning, and ways of learning
9	[43]	Qualitative research	Learning styles
10	[44]	Survey	Competence Motivation (CM), Attitude Toward Learning (AL), Attention/Persistence (AP), and Strategy/Flexibility (SF)
11	[45]	A longitudinal study	Student-oriented and supportive teaching styles
12	[46]	Survey	Self-efficacy and academic ability
13	[47]	Survey	Self-assessment
14	[48]	Survey	Attitudes towards learning
15	[49]	Survey	Educational background and teaching methods
16	[50]	Qualitative research	Incomplete explanations
17	[51]	Mediator analyses	General cognitive abilities and school achievement
18	[52]	Quantitative research	Directing intervention resources
19	[53]	Survey	Facial expressions.
20	[54]	A multi-panel Delphi	Exposure to digital environments
21	[55]	A quasi-experiment with nonequivalent control group design	Learning strategies and cognitive styles

3.2. Conceptualization of learning behavior in class

Broadly speaking, learning behavior can be explicit or implicit behaviors. Implicit learning behavior is related to online learning, while explicit learning behavior is related to learning motivation, reflection, learning satisfaction, and the psychological activity of students [56]. Behavior in the classroom is a source of anxiety, stress, and distraction for many teachers and is the main reason teachers give for leaving the profession [57]. There were eight studies stated that learning behavior is influenced by educational background, teaching methods, and learning content [58]. So, the learning process can be complex, and the information conveyed in learning must be multi-semantic. This is because what students think about school greatly impacts student learning and academic achievement [59].

Student-oriented learning styles can prevent students from being isolated in the classroom. However, during the COVID-19 pandemic in 2021, the government set a bold policy through virtual zoom from each student's home. Thus, the quality of the e-learning system quality (eLSQ) and technology readiness (TR) has a direct and significant impact on learning behavior [39]. Thus, Active participation of students in the learning process is a form of student academic involvement [60].

Organizational strategy contributes significantly to system failure and school culture [61]. For school satisfaction from the perspective of students, school identification is more important than student self-efficacy [62]. The role of peers, learning in groups, school ownership, and equal distribution of education impact the social environment of students so that those studying in a school environment have a higher enjoyment of learning than students studying at home [38]. Student learning behavior can be observed by recognizing student facial expressions [63]. The findings suggest that leadership, student-teacher social relations, and teacher social identity are crucial in managing student learning behavior in the classroom.

3.3. Conceptualization of learning behavior outside the classroom

Learning not only requires students to receive instructions in the classroom but also to engage in extra practice outside the classroom using technological and non-technological resources. Students' independent learning abilities outside the classroom are largely influenced by the use of technology [56]. Student learning outside the classroom is important in developing and improving student performance [64]. There were four studies reported on student learning behavior outside the classroom.

The student's internal state is the main predictor of student learning outcomes (LO) [57]. Hence, the pattern of student learning behavior in the form of private lessons or student social interactions outside the classroom has positive results in increasing students' non-cognitive factors (such as student motivation or family conflicts affecting student achievement) [48]. Independent learning behavior encourages students to learn outside the classroom through pedagogical activities connecting learning with resource centers [64].

Participation in student learning outside the classroom (such as courses or seminars) is beneficial for students, especially in developing learning skills (planning, monitoring, and evaluating learning) [58]. The results showed a positive relationship between learning behavior and overall resource use [64]. On the other hand, the students' childhood experiences do not affect the behavior of students as adults [60].

3.4. Conceptualization of motivation to learn

There were seven studies highlighted the relationship between learning behavior and learning motivation. Learning motivation, self-efficacy, and the use of self-regulation strategies are three important variables in helping students to gain learning experiences [65]. Furthermore, Kryshko *et al.* [66] found that learning motivation and the use of different learning strategies are closely related to student academic success. Thus, a good mediating function between the theory obtained by students and students' basic abilities can be an indicator of behavior for increasing students' learning motivation. Motivated students have practical implications or are fully related to aspects of student self-study behavior [67].

Independent learning behavior includes learning needs, interest in learning, and ways of learning [42]. Students' external environment can stimulate students' internal motivation and independent learning behavior. The cultural background of students influences individual behavior, so different school environments affect students' scholastic characteristics, which later may also be related to the teaching styles of each different school path [46]. From the study of cultural aspects, differences in student learning motivation were found in two aspects: female students had higher scores on the level of mastery motivation and social motivation, while male students had slightly higher scores on work motivation [68]. In addition to the path in the cultural aspect, the results of the path analysis conducted by Kärchner, Schöne, and Schwinger [69] also revealed various relationships between aspects of self-esteem, learning strategies, learning anxiety, and academic achievement. In his study, self-efficacy was a meaningful mediator of the effects caused by student learning anxiety, so self-efficacy plays an important role in determining student achievement.

3.5. Factors that influence student learning behavior

Various research results on the learning behavior scale were adopted to measure the results of the affective characteristics of learning behavior. Outcomes refer to strategy and motivation, planning and execution, self-monitoring, interpersonal communication, student location regulation, independent learning, avoidance, competitive, dependent, collaborative, and participatory [26], [33], [61], [70]. In addition to these factors, in research on the structure of the learning behavior scale score factor, four representative factors were found: task approach, negative emotions, task involvement, and self-control [38]. The results of learning behavior in this review study indicate the extent to which students are involved in learning and build upon their behavior in learning activities. Measurement of student learning behavior can be observed through the responses given by students to learning situations interacting with academic assignments [4].

Therefore, three articles highlight the learning behavior questionnaire (LBQ). The results of learning behavior are student behavior in learning activities (e.g., responding to learning situations, academic assignments, study habits, learning interests, learning strategies, learning styles, and learning orientations), which show a positive relationship with observable achievement and completion of student studies in learning [63]. Furthermore, the final validation result of the LBQ consists of 19 items using a 5-point rating: 1=strongly disagree to 5=strongly agree, with the content validity generating a value of 0.890. The exploratory factor analysis (EFA) test results discovered four factors: strategy, attitude, motivation, and level of satisfaction [62]. The results also show that students who frequently take online assessments after class tend to achieve higher test scores than those who do not, so student behavior is an important factor in enhancing learning through self-assessment [47]. The results of the study related to some of the basic factors that influence changes in the learning behavior of junior high school students who were studied from several developed and developing countries can be described in Table 6. In general, 19 factors that influence learning behavior were identified.

The factors that influence student learning behavior in Table 6 can then be divided into three main groups: i) Student learning behavior in the classroom; ii) Student learning behavior outside the classroom; and iii) Student learning motivation. Broadly speaking, learning behavior is divided into explicit and implicit learning behaviors. Learning behavior explicitly demands learning motivation, reflection, learning satisfaction, and psychological activity from students. Thus, the implementation of good learning in the classroom can encourage students to learn optimally. This is because the source of student anxiety, stress, and learning disorders often arise in students is influenced by the impact of students' relationships with teachers. Positive student-teacher relationships encourage complex teaching practices; students are more motivated to learn when they have positive relationships with teachers [71].

Table 6. Factors that influence student learning behavior

Finding	Studies
eLSQ and TR	[39]
Competence motivation (CM)/interest in learning	[23], [42], [44]
Attitude toward learning (AL)/attention/persistence (AP)	[44], [48]
Strategy flexibility (SF)/student-oriented and supportive teaching styles/ways of learning/teaching methods/receiving incomplete explanations	[40], [42], [44], [45], [49], [50]
Opportunities to learn	[23]
Obstacles to students changing	[23]
Collaborative style by dividing	[43]
Working individually	[43]
Academic performance type/school achievement/academic ability of students/general cognitive abilities	[20], [45], [46], [51]
Experience/background knowledge/educational background	[20], [49], [50]
Age	[20]
Negative emotions/intervention resources	[38], [52]
Task/thinking involvement/task approach	[38]
Self-control/self-efficacy/behavioral control/self-assessment	[38], [41], [46], [47]
Positive emotions	[12]
Recognition of facial expressions	[53]
The internal state of students	[57]
Exposure to digital environments	[54]
Learning needs/learning demands/learning environment/learning strategy	[42], [55]

Complex teaching practice can consist of a good teacher's educational background, innovative teaching methods, and teacher-taught learning content. The learning process becomes complex when learning is multi-semantic. Complex learning has a great impact on student learning and academic achievement. The active participation of students during the learning process is interpreted as student academic involvement. In addition, an incomplete explanation from the teacher can lead to unclear information for students, which will later affect students' interest and learning behavior. Therefore, teachers must be able to apply learning strategies that can increase students' learning satisfaction for students and self-efficacy.

In addition, learning interactions in the classroom are also influenced by the role of peers and the student's social environment. Students learning at a school will have a higher motivation than those learning at home. Social support from teachers and peers affects students' cognitive structures [72]. This implies that the social relations of students and teachers and interactions in the classroom play a significant role. Learning comes not only from in-class instructions but also from other sources, including extra practice from outside the classroom through technological or non-technological media.

Learning obtained by students outside the classroom will improve student performance and self-development. In addition, this review also found that students' internal circumstances, such as student motivation, family conflict, and student self-control, were the main predictors of student LO and behavior. The importance of learning behaviors and their potential determine student learning success [73]. However, learning behavior outside the classroom requires a good learning experience. This is because independent learning behavior is encouraged through educational activities that can connect classroom learning with knowledge resources and learning center resources, while students' childhood experiences do not always affect students in adulthood.

Three important variables that can help students improve academic achievement are the use of self-regulation strategies, self-efficacy and learning motivation. Learning motivation is closely related to students' academic success. However, motivation arises from a good environment, both an individual autonomous learning environment and a school environment; the learning environment is a great stimulus to the students' behavior. Hence, the relationship between aspects of self-esteem, learning strategies, learning anxiety, and academic achievement plays an important role in determining student learning behavior.

The learning behavior scale was adopted to measure the results of the affective characteristics of learning behavior. Therefore, student learning behavior in learning activities can be seen in how students respond to learning situations, academic assignments, study habits, interest in learning, learning strategies, learning styles, and learning orientation), which have a positive relationship with the completion of student studies both as indicated by 'strategy', 'attitude', 'motivation' and 'level of satisfaction'. In the end, the success of improving learning in a more positive direction can be seen in student learning behavior [47].

In addition to journal articles, a number of studies on learning behavior have been published. However, the research presented is less focused on matters relating to factors that influence learning behavior, causing the limitations of this systematization. However, it is important to include other literature such as conferences, government documents, technical reports, and other literature in subsequent reports. The lack of further analysis of learning behavior factors has hampered understanding of the factors causing

learning change for targeted junior high school students. Hopefully, this review will be a starting point in creating a broad understanding of adolescent students and school challenges in dealing with changes in student learning behavior in developing countries and can inspire studies in the future.

4. CONCLUSION

Learning behavior can be influenced by the internal and external environment. Learning behavior is divided into explicit and implicit learning behaviors. Implicit learning behavior refers to observable behavior, while explicit learning behavior refers to the relationship with learning motivation, reflection, learning satisfaction, and learning activities. Learning behavior, in general, can be learned through learning interactions in the classroom, students' social interactions outside the classroom, and students' learning motivation. Furthermore, learning behavior in the classroom is influenced by educational background, teaching methods, learning content, learning styles, active participation of students in the learning process, teacher explanations, student self-efficacy, and students' social environment (peers, study groups and social environment).

Student learning behavior outside the classroom is influenced by the role of technology, students' independent learning abilities, learning resources, learning environment and students' internal circumstances (family conflict and student motivation). Learning motivation and learning behavior has a strong relationship because learning motivation, self-efficacy and learning behavior are three important variables in enhancing students learning experiences. Students' independent learning behavior is influenced by learning needs, learning interests and learning methods. The LBQ determines four important factors influencing learning behavior: learning strategies, student attitudes in learning, motivation and level of satisfaction. While the learning behaviors scale questionnaire determines that learning behavior can be observed through responses in terms of learning structures in the classroom, such as task approaches, negative emotions, task involvement, and self-control.

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